

WHAT IS CLAIMED IS:

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1. A light amount control device comprising:
light source driving means for driving a light
source to emit a light at a first optical amount level
value and a second optical amount level value greater
10 than the first optical amount level value;
anterior reflected light signal level
detecting means for irradiating the light emitted from
said light source onto a recording medium and detecting
a signal level value of the reflected light reflected by
15 said recording medium before recording information on
said recording medium;
reference level value retaining means for
retaining the detected signal level value as a reference
level value;
20 posterior reflected light signal level
detecting means for irradiating the light emitted from
said light source onto said recording medium and
detecting a signal level value of the reflected light
reflected by said recording medium after starting
25 information recording on said recording medium;

comparing means for comparing the detected
signal level value with the reference level value
retained by said reference level value retaining means;
and

5 drive current adjusting means for adjusting a
drive current which drives said light source to emit the
light based on a result of the comparison of said
comparing means,

10 wherein each of said anterior reflected light
signal level value detecting means and said posterior
reflected light signal level value detecting means
includes:

15 first reflected light signal level value
detecting means for detecting the second optical amount
level value of the reflected light reflected by said
recording medium;

20 second reflected light signal level value
detecting means for detecting an average value of the
signal level value of the light emitted by said light
source; and

detection place selecting means for selecting
one of outputs of the first reflected light signal level
value detecting means and the second reflected light
signal level value detecting means in accordance with an
25 instruction for selection.

2. The light amount control device as claimed in claim 1, wherein the instruction for selection is determined based on a digital modulation rate of said light source.

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3. The light amount control device as claimed
10 in claim 2, wherein the instruction for selection is determined so as to cause said detection place selecting means to select the output of said first reflected light signal level value detecting means when the digital modulation rate of said light source is low, and to
15 select the output of said second reflected light signal level value detecting means when the digital modulation rate of said light source is high.

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4. The light amount control device as claimed in claim 1, wherein the instruction for selection is determined based on a kind of said recording medium.

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5. A light amount control device comprising:
- light source driving means for driving a light source to emit a light at a first optical amount level value, a second optical amount level value greater than
- 5 the first optical amount level value and a third optical amount level value greater than the second optical amount level value;
- anterior reflected light signal level detecting means for irradiating the light emitted from
- 10 said light source onto a recording medium and detecting a signal level value of the reflected light reflected by said recording medium before recording information on said recording medium;
- reference level value retaining means for
- 15 retaining the detected signal level value as a reference level value;
- posterior reflected light signal level detecting means for irradiating the light emitted from
- said light source onto said recording medium and
- 20 detecting a signal level value of the reflected light reflected by said recording medium after starting recording information on said recording medium;
- comparing means for comparing the detected signal level value with the reference level value
- 25 retained by said reference level value retaining means;

and

drive current adjusting means for adjusting a drive current which drives said light source to emit the light based on a result of the comparison of said

5 comparing means,

wherein each of said anterior reflected light signal level value detecting means and said posterior reflected light signal level value detecting means includes:

10 first reflected light signal level value detecting means for detecting one of the second optical amount level value and the third optical amount level value of the reflected light reflected by said recording medium;

15 second reflected light signal level value detecting means for detecting an average value of the signal level value of the light emitted by said light source; and

detection place selecting means for selecting
20 one of outputs of the first reflected light signal level value detecting means and the second reflected light signal level value detecting means in accordance with an instruction for selection, and

wherein said drive current adjusting means
25 includes means for adjusting the drive current supplied

to said light source so as to cause said light source to
emit the light at the reference level value in
accordance with a result of comparison of said comparing
means when said light source emits the light at the
5 second optical amount level value, and for adjusting the
drive current supplied to said light source so as to
cause said light source to emit the light at the third
reference level value in accordance with an efficiency
value obtained by a relationship between a value
10 corresponding to the second optical level value and a
value corresponding to the drive current.

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6. The light amount control device as claimed
in claim 5, wherein the instruction for selection is
determined based on a digital modulation rate of said
light source.

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7. The light amount control device as claimed
25 in claim 6, wherein the instruction for selection is

determined so as to cause said detection place selecting means to select the output of said first reflected light signal level value detecting means when the digital modulation rate of said light source is low, and to
5 select the output of said second reflected light signal level value detecting means when the digital modulation rate of said light source is high.

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8. The light amount control device as claimed in claim 5, wherein the instruction for selection is determined based on a kind of said recording medium.

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9. An information recording apparatus for
20 recording information on a recording medium by irradiating a light from a light source, said information recording apparatus comprising:

light source driving means for driving said light source to emit a light at a first optical amount
25 level value and a second optical amount level value

anterior reflected light signal level
detecting means for irradiating the light emitted from
said light source onto said recording medium and

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        reference level value retaining means for
retaining the detected signal level value as a reference
0  level value;

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comparing means for comparing the detected
signal level value with the reference level value
retained by said reference level value retaining means;
20 and

25 wherein each of said anterior reflected light

signal level value detecting means and said posterior reflected light signal level value detecting means includes:

first reflected light signal level value
5 detecting means for detecting the second optical amount level value of the reflected light reflected by said recording medium;

second reflected light signal level value
detecting means for detecting an average value of the
10 signal level value of the light emitted by said light source; and

detection place selecting means for selecting one of outputs of the first reflected light signal level value detecting means and the second reflected light
15 signal level value detecting means in accordance with an instruction for selection.

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10. The information recording apparatus as claimed in claim 9, wherein the instruction for selection is determined based on a digital modulation rate of said light source.

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11. The information recording apparatus as
claimed in claim 10, wherein the instruction for
selection is determined so as to cause said detection
place selecting means to select the output of said first
5 reflected light signal level value detecting means level
when the digital modulation rate of said light source is
low, and to select the output of said second reflected
light signal level value detecting means when the
digital modulation rate of said light source is high.

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12. The information recording apparatus as
15 claimed in claim 9, wherein the instruction for
selection is determined based on a kind of said
recording medium.

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13. The information recording apparatus as
claimed in claim 9, wherein said information recording
apparatus is configured and arranged to be incorporated
25 into a computer.

14. An information recording apparatus for recording information on a recording medium by irradiating a light from a light source, said information recording apparatus comprising:

- 5 light source driving means for driving said light source to emit a light at a first optical amount level value, a second optical amount level value greater than the first optical amount level value and a third optical amount level value greater than the second
- 10 optical amount level value;
- anterior reflected light signal level detecting means for irradiating the light emitted from said light source onto said recording medium and detecting a signal level value of the reflected light
- 15 reflected by said recording medium before recording information on said recording medium;
- reference level value retaining means for retaining the detected signal level value as a reference level value;
- 20 posterior reflected light signal level detecting means for irradiating the light emitted from said light source onto said recording medium and detecting a signal level value of the reflected light reflected by said recording medium after starting
- 25 recording information on said recording medium;

comparing means for comparing the detected
signal level value with the reference level value
retained by said reference level value retaining means;
and

5 drive current adjusting means for adjusting a
drive current which drives said light source to emit the
light based on a result of the comparison of said
comparing means,

wherein each of said anterior reflected light
10 signal level value detecting means and said posterior
reflected light signal level value detecting means
includes:

first reflected light signal level value
detecting means for detecting one of the second optical
15 amount level value and the third optical amount level
value of the reflected light reflected by said recording
medium;

second reflected light signal level value
detecting means for detecting an average value of the
20 signal level value of the light emitted by said light
source; and

detection place selecting means for selecting
one of outputs of the first reflected light signal level
value detecting means and the second reflected light
25 signal level value detecting means in accordance with an

instruction for selection, and

wherein said drive current adjusting means includes means for adjusting the drive current supplied to said light source so as to cause said light source to
5 emit the light at the reference level value in accordance with a result of comparison of said comparing means when said light source emits the light at the second optical amount level value, and for adjusting the drive current supplied to said light source so as to
10 cause said light source to emit the light at the third optical amount level value in accordance with an efficiency value obtained by a relationship between a value corresponding to the second optical level value and a value corresponding to the drive current.

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15. The information recording apparatus as
20 claimed in claim 14, wherein the instruction for selection is determined based on a digital modulation rate of said light source.

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16. The information recording apparatus as
claimed in claim 15, wherein the instruction for
selection is determined so as to cause said detection
place selecting means to select the output of said first
5 reflected light signal level value detecting means when
the digital modulation rate of said light source is low,
and to select the output of said second reflected light
signal level value detecting means when the digital
modulation rate of said light source is high.

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17. The information recording apparatus as
15 claimed in claim 14, wherein the instruction for
selection is determined based on a kind of said
recording medium.

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18. The information recording apparatus as
claimed in claim 14, wherein said information recording
apparatus is configured and arranged to be incorporated
25 into a computer.